

MANCHAC SHORELINE PROTECTION PROJECT OVERVIEW

February 1, 2006

1.0 PROJECT LOCATION AND BACKGROUND

The project site is located in St. John the Baptist Parish, near the town of Manchac, La., near the Manchac Wildlife Management Area and Manchac Pass. The approximate coordinates of the center of the project area are as follows: X=3,591,417.22, N=636,675.27 (Adjusted NAD 83 Datum LSZ (1702) ft). The project area is shown on Attachment I.

2.0 EXISTING FEATURES

Two separate shoreline protection projects currently exist within the project area: a field of segmented breakwaters, and a continuous gabion structure. The breakwaters were constructed in 1995 by the Army Corps of Engineers as mitigation for wetland loss resulting from construction of the Lake Pontchartrain Hurricane Protection Project. The length of the field is approximately 25,400 lin. ft. Since their construction the breakwaters have settled 2.5 ft. Since these structures barely protrude above the water surface, the breakwaters experience a great amount of wave overtopping. Additionally, due to improper design, water depths between the breakwaters have increased significantly due to scour.



USACE breakwater with Lake Pontchartrain shoreline in background

A continuous gabion structure called Turtle Cove was originally constructed by LDNR in 1994 to prevent a 1200 ft. section of the thin landbridge that separates “The Prairie” and Lake Pontchartrain from breaching. Several years after construction, the wire baskets of the gabion began to break apart due to wave energy. In 2000 LDNR cap the existing gabion wall with larger gradation rip rap, creating a continuous rock structure with an elevation of +3.0 ft. This structure proved to be very successful in protecting the lakeshore rim. Since its maintenance lift in 2000, almost 5 acres of land has been built from accreted sediment behind the structure.



Turtle Cove gabion wall with extensive vegetative growth on accreted soils behind the structure.

Another maintenance project in this area is currently being designed by LDNR to further protect “The Prairie” from Lake Pontchartrain. This design includes capping approximately 4000 lin. ft. of the existing breakwaters to an elevation of +3.0 ft. and filling in the gaps between these breakwaters to the same elevation, creating a continuous rock structure similar to Turtle Cove. The engineering and design is being funded by LDNR and LDWF. Construction is being funded through a NAWCA grant. Attachment II shows a plan of the Turtle Cove project and the maintenance project that is currently being designed.

3.0 PROPOSED PROJECT

The scope of this proposal includes capping the remaining 21,500 lin. ft. of USACE breakwaters and filling in the gaps to create a continuous structure similar to one described above. Attachment III shows typical sections of the capped structures and the new structures that would be placed in the gaps.

